

5 receiving an input signal representing a second brightness output which varies
6 from a minimum brightness to a maximum brightness of the color display device; and
7 correlating the first brightness output with the input signal into a mathematical
8 representation of an input-output transfer characteristic of the color display device.

1 21. The method of claim 20, further comprising the step of:
2 storing the mathematical representation in a memory device.

1 22. The method of claim 20, further comprising recursively repeating displaying a
2 first brightness output, receiving an input signal and correlating steps for each color, green,
3 red and blue.

1 23. The method of claim 20, wherein the first brightness output is comprised of a
2 first number of pixels being illuminated and a second number of pixels not being illuminated.

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cm+ 1 24. The method of claim 20, wherein the mathematical representation comprises a
2 polynomial equation.

3 25. A system for determining a mathematical representation of an input-output
4 characteristic of a color display device for a computer system over an operating range of the
5 color display device, the system comprising:

6 a computer;

7 a color display device coupled to the computer;

8 an output of the color display device representing a known level of a
9 maximum brightness output of the color display device;

10 an input signal to the color display device representing a varying color
11 brightness output; and

12 wherein the computer correlates the output of the color display device with the
13 input signal into a mathematical representation of the input-output transfer
14 characteristic of the color display device.

1 26. The system of claim 25, further comprising:
2 a memory device to store the mathematical representation.

1 27. The system of claim 25, wherein correlation of the output with the input signal
2 is performed for each color, green, red and blue.

1 28. The system of claim 25, wherein the output of the color display device is
2 comprised of a first number of pixels being illuminated and a second number of pixels not
3 being illuminated.

1 29. The system of claim 25, wherein the mathematical representation comprises a
2 polynomial equation.

Sub B5
1 ~~30. A method of color management for a color display device, the method~~
2 ~~comprising the steps of:~~

3 generating a mathematical model of a brightness transfer function describing a
4 relationship between color input signals to a color display device and color brightness
5 output of the color display device; and

6 ~~storing a representation of the mathematical model in a memory device.~~

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1 31. The method of claim 30, wherein the brightness transfer function comprises a
2 polynomial transfer function.

1 32. The method of claim 30, wherein the memory device is in the color display
2 device.

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1 ~~33. A color management system for a color display device, comprising:~~
2 ~~a means for generating a mathematical model of a brightness transfer function~~
3 ~~describing a relationship between color input signals to a color display device and~~
4 ~~color brightness output of the color display device; and~~
5 ~~a means for storing a representation of the mathematical model in the color~~
6 ~~display device.~~

1 34. The system of claim 33, wherein the brightness transfer function comprises a
2 polynomial transfer function.